

of temperature inversions must be very marked. More interesting, however, is the behavior of certain species normally members of the swamp associations, which here are near or at their northern limits. They are *Rhamnus caroliniana*, *Adelia acuminata*, *Celtis mississippiensis*, *Planera aquatica*, and *Ilex decidua*. Of these all but *Planera* are abundant in the swamps along the Mississippi River bayous, and to some extent also in the cypress swamps along the Ohio River. But they occur also on the dry rocky sides and tops of certain hills in Jackson County, 50 meters or more above the bottoms, where the soil is a thin clay and the forest cover very loose. The appearance of these plants associated with such xerophytes as *Ulmus alata*, *Sassafras Sassafras* and *Rhus aromatica*, and surrounded by tufts of *Agave virginica*, *Solidago Drummondii* and *Pellaea atropurpurea* is *bizarre* in the extreme. *Liquidambar styraciflua*, which in Illinois is confined to the southern part, shows indications of the same distribution. It is abundant on the driest uplands and in the swamps, but infrequent in the mesophytic midlands. The small cane, *Arundinaria tecta*, which is abundant in all the bottom-land swamps, wet woods and along streams, is also occasional in the moister upland woods and even in the thin but moist soil-deposits on ledges of shaded cliffs. It is worthy of note that in 1902 the canes in the latter habitat bloomed, though apparently no others did.

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GRAYIA OR EREMOSEMIUM

BY P. A. RYDBERG

For sixty years a very interesting and rather handsome Chenopodiaceous shrub had borne the name *Grayia*,¹ named in honor of the immortal Asa Gray. In December, 1900, Dr. E. L. Greene replaced it by *Eremosmium*² under the plea that the former "dates from 1841 only; while another genus by the same name was published a year or two earlier." It would have been well if Dr. Greene had stated by whom and where this other *Grayia*

¹ Hook. & Arn. Bot. Beechey Voy. 387. 1840.

² Greene, Pittonia 4: 225. D 1900.

was published, as it would have saved other botanists a good deal of trouble. Turning to the Kew Index, which by the way is not infallible, one finds four genera named *Grayia* (spelled in various ways). Of these, all are published later than 1841, except *Grayia* Arnott¹ and *Grayia* Hook. & Arn. Dr. Greene gives 1841 as the year of publication of the latter. This date is given also on the title-page of the Botany of Captain Beechey's Voyage, but the work was published in parts, a fact which I think is not unknown to Dr. Greene. The part containing the description of *Grayia* Hook. & Arn. was issued before June 1840. It was reviewed in the *American Journal of Science*² among botanical literature received from April to June 1840. Another evidence that the date of publication was in the earlier half of 1840, instead of 1841, is that *Grayia* Hook. & Arn. was republished and illustrated in the third volume of Hooker's *Icones*,³ which also was issued in the earlier part of 1840, early enough to be reviewed in the same number of the *American Journal of Science*.⁴

Hence, both *Grayia* Hook. & Arn. and *Grayia* Arnott were published in 1840. Now the question arises, which was published earlier in the year? To me all the evidences indicate that *Grayia* Hook. & Arn. was the earlier, for Endlicher in his *Genera Plantarum*,⁵ published in the later part of 1840, took up Hooker and Arnott's *Grayia*, but made no reference to the one published in Steudel's *Nomenclator*. I think that the burden of proof falls on Dr. Greene to show that *Grayia* Arnott was published earlier than that of Hooker and Arnott.

But not even this is necessary, for in my opinion *Grayia* Arnott of Steudel's *Nomenclator* has no standing whatever. On page 705, the place of publication given, we find :

“*Grayia* Arnott.

“*Zeylanica* Arn. *Andropogon* *Grayia*.”

The word *Grayia* is printed in a type which Steudel used to

¹ Steud. *Nomencl.* 1 : 705. 1840. [Ed. 2.]

² 39 : 172. 1840.

³ 3 : *pl.* 271.

⁴ *Loc. cit.*, 178.

⁵ Page 1376.

indicate synonyms and he refers it to *Andropogon Grayia*. This latter is found on page 91. Here we read :

“**ANDROPOGON** Lin.

* * * * *

“*Grayia Steud.* Zeylon.

“*Grayia zeylanica.* Arnott.

“*Schizachyrium zeylanicum.* Nees in *Wight. hrb.*”

There is no earlier publication of *Andropogon Grayia* Steud., and *Schizachyrium zeylanicum* Nees was not published until 1855,¹ and even then only as a synonym under *Andropogon Pseudograya*.

Grayia Arnott in Steudel's Nomenclator is therefore given on page 91 as a synonym of a *nomen nudum*, which has another *nomen nudum* as a synonym, and on page 705 it is published as a *nomen nudum* with a *nomen nudum* as a synonym. Publications of this kind nobody now-a-days holds as valid.

What threw Dr. Greene off the track was perhaps the fact that Hooker and Arnott in their original publication of *Grayia* mentioned an earlier *Grayia*, referring to Wight's no. 2033. Wight's Catalogue was never printed. Duplicate copies were sent out I think in 1833. Even if this by somebody would be regarded as a publication, *Grayia elegans* Arnott (note : not *G. zeylanica*) is at best a *nomen nudum*, for opposite the number 2033, this name only is given. “*Graya elegans*” was afterwards properly published by Steudel,² who stated that in his Nomenclator he had confused it with *Schizachyrium zeylanicum*. *Grayia* of Steudel's Nomenclator was therefore intended to be the same as the unpublished *Grayia* of Wight's catalogue.

Until somebody can show me that there is some other *Grayia* published before 1840, I feel obliged to reject *Ercosmium* and shall be pleased to use for the two Chenopodiaceous shrubs of the Rocky Mountain regions that time-honored name *Grayia* Hook. & Arn.

NEW YORK BOTANICAL GARDEN,
December, 1905.

¹ Steud. Syn. Pl. Glum. 1 : 365. 1855.

² Steud., *loc. cit.*, 1 : 119. 1855.